

CLAIMS

What is claimed is:

5           1. A method for detecting changes in three-dimensional shape, said method comprising the steps of:

- a)       collecting a plurality of imagery of a scene at different points in time;
- b)       using three-dimensional reconstruction processes to create three-dimensional models of said scene, said three-dimensional models comprising coordinates,
- 10       said coordinates having elevations; and
- c)       comparing said three-dimensional models.

2. The method as recited in Claim 1 wherein step c) further comprises the step of:

- c1)      comparing the mean or median elevation of said coordinate of said three-
- 15       dimensional models.

3. The method as recited in Claim 1 wherein step c) further comprising the steps of:

- c1)      computing a score, said score being an appraisal of the confidence of the
- 20       accuracy of said three-dimensional model;

c2)      collecting statistics on the variation of elevations for said coordinate as a function of said score; and

c3) comparing said three-dimensional models derived at different points in time by determining which changes are statistically significantly different.

4. A computer-readable medium having stored thereon instructions for causing a computer to implement a process for detecting changes in three-dimensional shape to perform the steps of:

- a) collecting a plurality of imagery of a scene at different points in time;
- b) using three-dimensional reconstruction processes to create three-dimensional models of said scene, said three-dimensional models comprising coordinates, said coordinates having elevations; and
- c) comparing said three-dimensional models.

5. The computer-readable medium of Claim 4 wherein said instructions therein causes a computer to perform the step of:

- c1) comparing the mean or median elevation of said coordinate of said three-dimensional models.

6. The computer-readable medium of Claim 4 wherein said instructions therein causes a computer to perform the step of:

- c1) computing a score, said score being an appraisal of the confidence of the accuracy of said three-dimensional model;

c2) collecting statistics on the variation of elevations for said coordinate as a function of said score; and

c3) comparing said three-dimensional models derived at different points in time by determining which changes are statistically significantly different.

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7. An computer system comprising:

a bus;

a processor coupled to said bus; and

a computer-readable memory unit coupled to said bus;

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said processor for performing a method for detecting changes in three-dimensional shape, said method comprising the steps of:

a) collecting a plurality of imagery of a scene at different points in time;

b) using three-dimensional reconstruction processes to create three-

dimensional models of said scene, said three-dimensional models comprising coordinates,

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said coordinates having elevations; and

c) comparing said three-dimensional models.

8. The computer system of Claim 7 wherein said processor performs said method for detecting changes in three-dimensional shape, further comprising the step of:

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c1) comparing the mean or median elevation of said coordinate of said three-dimensional models.

9. The computer system of Claim 7 wherein said processor performs said method for detecting changes in three-dimensional shape, further comprising the step of:

c1) computing a score, said score being an appraisal of the confidence of the accuracy of said three-dimensional model;

5 c2) collecting statistics on the variation of elevations for said coordinate as a function of said score; and

c3) comparing said three-dimensional models derived at different points in time by determining which changes are statistically significantly different.

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